O'BRIEN & GERE

March 31, 2009

Mr. James Hahnenberg
Remedial Project Manager
U.S. Environmental Protection Agency, Region 5
77 West Jackson Boulevard, SR-6J
Chicago, IL 60604-3507

Re: Second Quarter Letter Report
Ground Water Delineation Study
North Bronson Industrial Area

File: 12716/41845 #5

Dear Mr. Hahnenberg:

O'Brien & Gere is pleased to present the results of the second quarter ground water level measurements for the Ground Water Delineation Study for the North Bronson Industrial Area Operable Unit 1 (NBIA OU1) PRP Group. The Ground Water Delineation Study Work Plan was submitted to the United States Environmental Protection Agency (USEPA) in February 2008 and approved on July 18, 2008, as amended by the June 2, 2008 Response to Comments letter and the July 14, 2008 technical clarifications provided by e-mail. The Work Plan prescribed quarterly ground water level measurements to evaluate flow conditions at the site. The first quarter ground water levels were collected on October 13, 2008 and were reported in January 2009 in the Preliminary Ground Water Delineation Data Report. The following provides a discussion of the field activities conducted during this quarter of site activities, as well as the results of the ground water level measurements.

Water Level Measurements

Synoptic ground water level measurements were collected on January 22, 2009. These water-level measurements were used to assess ground water flow conditions across the Western Lagoon Area (WLA) and to generate a ground water potentiometric surface map (Figure 1). Water level measurements were collected from the following locations:

- *Recently installed monitoring wells* – MW-6D, MW-33I, MW-39, MW-40, MW-42, MW-43, MW-44S, MW-44D, MW-45S, MW-45D;
- *Select existing monitoring wells and piezometers in the vicinity of the WLA* – PZ5, PZ-7S, PZ-7D, MW-4S, MW-5S, MW-5D, MW-6S, MW-7S, MW-8S, MW-8D, MW-9S, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31, MW-32S, MW-32I, MW-33S, MW-36, MW-37, MW-38; and
- *County Drain #30 (CD #30) staff gauge* – SG-1R.

Piezometers PZ-6S and PZ-6D, which had previously been converted to flush-mount piezometers, could not be located through the approximately 18 inches of snow and ice during this round of water level measurements even with the use of a metal detector to help locate these piezometers. These piezometers will be located prior to the next round of water levels after the snow cover has melted, so water level measurements can be obtained from these piezometers. Furthermore, a marker post will be installed adjacent to the flush mount protective casing to aid in locating the piezometers in the future.

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Ground Water Level Results

The second round of ground water levels indicates depth to water measurements ranging from about 6 to 14 feet below top of casing, which corresponds to about 4 to 12 feet below ground surface. Ground water elevations range from a high of 904.93 ft above mean sea level (ft-amsl) at MW-4S south of the WLA to 901.13 ft-amsl at MW-38 located northwest of the WLA (see Table 1). The ground water levels during this round were slightly higher (about 0.1 feet higher on average) than the ground water levels collected during the first round in October 2008. Figure 1 illustrates the ground water flow conditions measured on January 22, 2009. Flow directions across the site were generally from the south to the north and northwest toward CD #30. Slight to moderate upward vertical gradients were measured at the nested well locations in close proximity to CD #30 (Table 2). The vertical gradients and the fact that some of the wells are screened at the base of the aquifer were factored into the construction of Figure 1.

Previous measurement of ground water elevations near CD #30 have shown that ground water flow conditions vary over time, and two additional rounds of water-level measurement will be conducted as part of the Ground Water Delineation Study to more fully explore the local flow regime. In addition, the top of casing elevations for the 15 existing wells will be resurveyed prior to the next round of water levels to ensure consistency among reported ground water elevation data.

We trust that this submittal satisfies your requirements at this time. Please contact Leo Brausch (724/444-0377 or lbrausch@fyi.net) if you have questions regarding this submittal or related project matters.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

Gary A. Angyal, P.E.
Vice President

cc: Deborah D. Larsen, MDEQ
Charles W. Graff, MDEQ

NBIA Operable Unit 1 PRP Group Legal Committee
NBIA Operable Unit 1 PRP Group Technical Committee
Clifford Yantz, O'Brien & Gere

Table 1
NBIA Operable Unit 1 Ground Water Delineation Study
Ground Water Elevation Data

Monitoring Location	Coordinates (ft)		Depth to Water 10/13/08 (ft bTOC)	Depth to Water 1/22/09 (ft bTOC)	Elevation (ft-amsl)			
	Northing	Easting			Top of Casing	Ground Surface Elevation	Ground Water Elevation 10/13/08	Ground Water Elevation 1/22/09
MW-4S	138062.85	12896726.90	9.17	8.81	913.74	911.36	904.57	904.93
MW-5D	139109.69	12896534.50	8.50	8.15	912.29	910.07	903.79	904.14
MW-5S	139116.88	12896533.98	8.47	8.12	912.29	910.17	903.82	904.17
MW-6D	139892.49	12896040.54	6.48	6.34	910.16	907.66	903.68	903.82
MW-6S	139901.78	12896043.85	7.21	7.25	909.62	907.14	902.41	902.37
MW-7S	139849.12	12896327.29	10.36	10.42	912.95	911.04	902.59	902.53
MW-8D	139862.50	12895927.79	6.95	6.79	909.89	907.44	902.94	903.10
MW-8S	139857.34	12895924.25	7.70	7.70	910.10	907.73	902.40	902.40
MW-9S	139622.68	12896602.19	7.46	7.15	911.10	908.57	903.64	903.95
MW-25	139814.49	12897285.26	NA	7.57	910.92	908.34	N/A	903.35
MW-26	139603.17	12896195.03	7.51	7.17	911.10	908.91	903.59	903.93
MW-27	139252.22	12895913.53	9.00	8.61	913.33	910.80	904.33	904.72
MW-28	139994.02	12895572.07	7.75	7.77	909.79	907.32	902.04	902.02
MW-29	139825.69	12896528.40	6.45	6.40	909.36	906.77	902.91	902.96
MW-30	139609.82	12896011.17	7.26	6.92	910.80	908.29	903.54	903.88
MW-31	139771.65	12895887.33	5.71	5.70	908.42	906.46	902.71	902.72
MW-32I	139851.88	12896221.37	7.81	7.82	910.41	907.83	902.60	902.59
MW-32S	139850.55	12896227.37	7.71	7.68	910.29	907.77	902.58	902.61
New MW-33I	139890.53	12896217.39	7.34	7.39	910.35	907.58	903.01	902.96
MW-33S	139908.87	12896230.01	7.29	7.34	909.74	907.24	902.45	902.40
MW-36	139008.99	12896393.81	5.76	5.49	909.07	906.52	903.31	903.58
MW-37	139594.90	12896077.57	14.19	14.00	917.23	915.86	903.04	903.23
MW-38	140157.77	12895482.08	11.89	11.78	912.91	910.36	901.02	901.13
New MW-39	140113.42	12895342.85	7.93	7.94	911.04	908.50	903.11	903.10
MW-40	139973.22	12895227.20	7.94	7.91	910.92	908.38	902.98	903.01
MW-42	140279.95	12895076.27	7.95	8.01	911.15	908.43	903.20	903.14
MW-43	140027.56	12895569.40	6.51	6.54	909.72	907.19	903.21	903.18
MW-44D	139887.22	12896335.86	6.43	6.21	910.13	907.54	903.70	903.92
MW-44S	139887.68	12896341.38	7.43	7.49	910.38	907.54	902.95	902.89
MW-45D	139925.21	12895825.49	7.56	7.51	910.93	908.08	903.37	903.42
MW-45S	139924.19	12895831.44	8.03	8.06	911.11	908.11	903.08	903.05
PZ-5	138677.32	12897233.55	7.43	7.11	911.26	908.41	903.83	904.15
PZ-6D	139185.01	12897098.99	N/A	N/A	909.48	909.77	N/A	N/A
PZ-6S	139185.08	12897099.04	N/A	N/A	909.48	909.77	N/A	N/A
PZ-7D	138597.55	12896101.80	8.35	7.95	911.98	909.95	903.63	904.03
PZ-7S	138597.55	12896101.80	8.44	8.05	912.08	909.95	903.64	904.03
SG-1R	139871.21	12896228.17	N/A	N/A	908.50	N/A	902.79	902.98
SG-2R	139954.71	12898157.60	N/A	N/A	904.61	N/A	N/A	N/A
SG-3	138932.68	12896354.15	N/A	N/A	904.95	N/A	903.61	N/A
SG-4	139013.21	12896559.96	N/A	N/A	905.04	N/A	903.50	N/A

Notes:

1. *N/A = Not Available or Not Applicable*

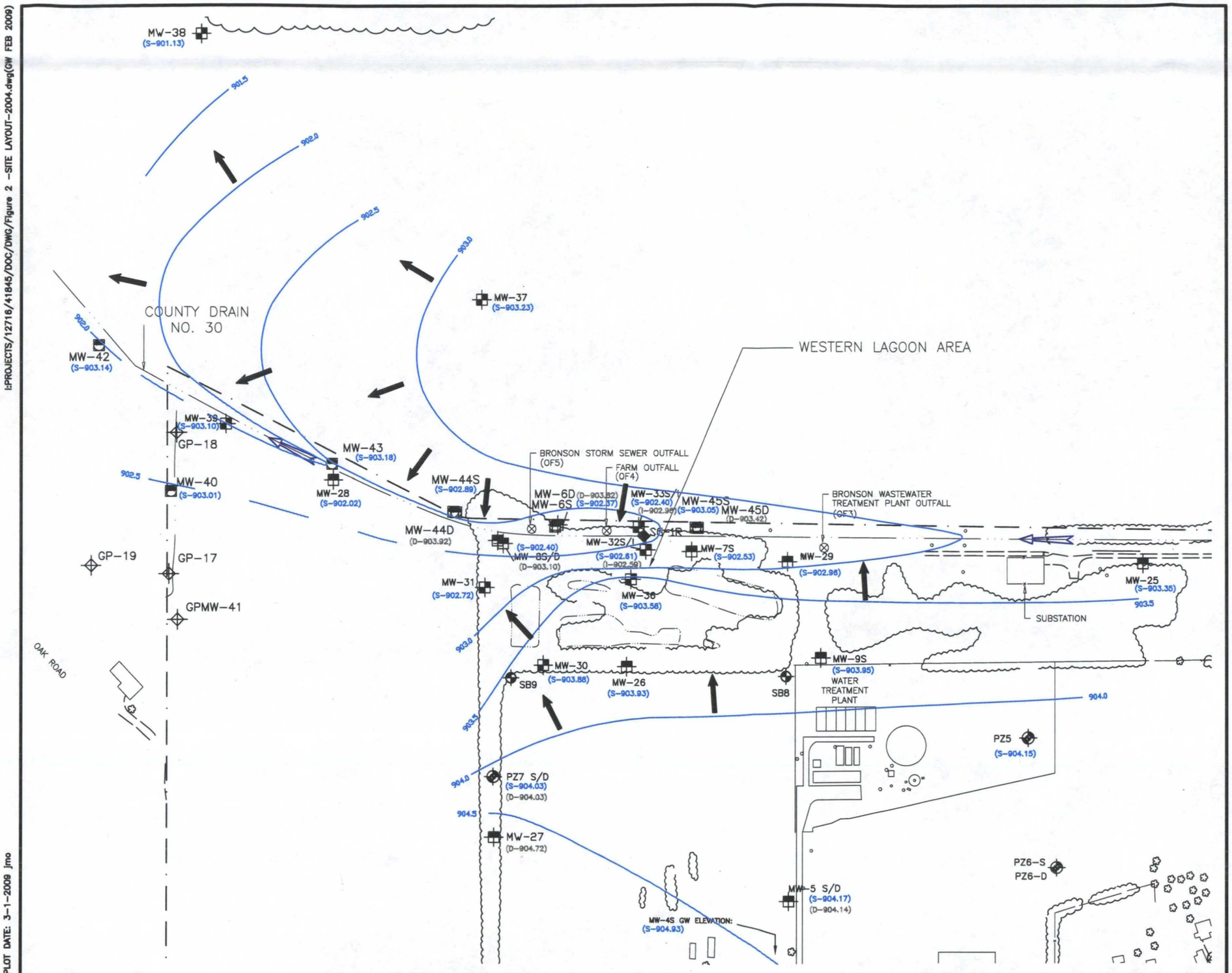
Table 2
NBIA Operable Unit 1 Ground Water Delineation Study
Vertical Gradient Data

Monitoring Location	TOC Elevation (ft amsl)	Screen Length (ft)	Top of Screen Depth (ft bTOC)	Top of Screen Elevation (ft amsl)	Bottom of Screen Depth (ft bTOC)	Bottom of Screen Elevation (ft amsl)	Midpoint of Screen Elevation (ft amsl)	Difference in Screen Midpoint Elevations (ft)	Ground Water Elevation (ft aMSL) 1/22/09	Difference in Groundwater Elevations (ft)	Vertical Gradient
MW-5D	912.29	5.40	42.90	869.39	48.30	863.99	866.69	34.10	904.14	0.03	0.0009
MW-5S	912.29	5.40	8.80	903.49	14.20	898.09	900.79		904.17		
MW-6D	910.16	5.00	25.67	884.49	30.67	879.49	881.99	15.33	903.82	-1.45	-0.0944
MW-6S	909.62	5.40	9.60	900.02	15.00	894.62	897.32		902.37		
MW-8D	909.89	5.40	23.80	886.09	29.20	880.69	883.39	15.51	903.10	-0.70	-0.0451
MW-8S	910.10	5.40	8.50	901.60	13.90	896.20	898.90		902.40		
MW-32I	910.41	3.00	11.40	899.01	14.44	895.97	897.49	4.98	902.59	0.02	0.0040
MW-32S	910.29	5.00	5.30	904.99	10.33	899.96	902.48		902.61		
New MW-33I	910.35	5.00	13.00	897.35	18.00	892.35	894.85	7.17	902.96	-0.56	-0.0783
MW-33S	909.74	5.00	5.20	904.54	10.23	899.51	902.03		902.40		
MW-44D	910.13	5.00	22.50	887.63	27.50	882.63	885.13	15.14	903.92	-1.04	-0.0684
MW-44S	910.38	5.00	7.60	902.78	12.60	897.78	900.28		902.89		
MW-45D	910.93	5.00	22.10	888.83	27.10	883.83	886.33	6.21	903.42	-0.36	-0.0587
MW-45S	911.11	5.00	16.08	895.03	21.08	890.03	892.53		903.05		
PZ-6D	909.48	2.95	56.66	852.82	59.61	849.87	851.35	N/A	N/A	N/A	N/A
PZ-6S	909.48	2.95	8.76	900.72	11.71	897.77	899.25		N/A		
PZ-7D	911.98	2.95	40.37	871.61	43.37	868.61	870.11	28.99	904.03	0.00	0.0000
PZ-7S	912.08	2.95	11.48	900.60	14.48	897.60	899.10		904.03		

Notes:

1. *N/A = Not Available or Not Applicable*
2. *TOC = top of casing*
3. *ft amsl = feet above mean sea level*
4. *ft = feet*
5. *ft bTOC = feet below top of casing*
6. *A negative vertical gradient indicates an upward gradient.*

I:PROJECTS/12716/41845/DOC/DWG/Figure 2 -SITE LAYOUT-2004.dwg(GW FEB 2009)



PLOT DATE: 3-1-2009 jmo

FIGURE 1

NORTH

LEGEND

- APPROXIMATE SITE BOUNDARY
- VAP MONITORING WELL LOCATION
- TEMPORARY VERTICAL AQUIFER PROFILE LOCATION
- STAFF GAUGE
- GEOPROBE LOCATION
- PRE-RI MONITORING WELL
- RI MONITORING WELL
- SOIL BORING LOCATION AND NUMBER
- PRE-DESIGN MW
- MONITORING WELL - BRONSON PRECISION PRODUCT
- PIEZOMETER LOCATION AND NUMBER
- PRIVATE WELL LOCATION
- SURFACE-WATER FLOW DIRECTION
- GENERAL GROUND WATER FLOW DIRECTION
- GROUND WATER CONTOUR LINE
- (902.71) SHALLOW OR SINGULAR WELL GROUND WATER ELEVATION DATA
- (903.88) DEEP OR INTERMEDIATE WELL GROUND WATER ELEVATION DATA

NORTH BRONSON INDUSTRIAL AREA SITE OPERABLE UNIT 1 BRONSON, MICHIGAN

GROUND WATER CONTOURS JANUARY 22, 2009

200 0 200

1"=200'

FILE NO. 12716.41845.FIG2
FEBRUARY 2009

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